

PATENT
App. Ser. No.: 10/664,545
Atty. Dkt. No. ROC920030253US1
PS Ref. No.: IBMK30253

IN THE CLAIMS:

Please cancel claims 36 and 39 without prejudice, and amend the claims as follows:

1. (Currently Amended) A method of architecting a relationship between a first physical representation of data and a second physical representation of the data, comprising:

providing a logical model abstractly describing the second physical representation, wherein the logical model comprises a plurality of logical field definitions each comprising a logical field name, at least one location attribute identifying a location of a particular data item of the data corresponding to the logical field name, and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the particular data item corresponding to the logical field name of the respective logical field definition; and

mapping the first physical representation to [[a]] the logical model abstractly describing the second physical representation.

2. (Currently Amended) The method of claim 1, wherein the first physical representation defines a first plurality of data fields having the data and wherein the logical field definitions of the logical model comprises a plurality of logical field specifications, each abstractly describe[[ing]] at least one of a second plurality of data fields defined according to the second physical representation.

3. (Currently Amended) The method of claim 2, wherein mapping the first physical representation to the logical model comprises mapping at least one data field of the first plurality of data fields to a corresponding logical field specification definition of the plurality of logical field specifications definitions.

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4. (Original) The method of claim 1, wherein the logical model is provided prior to mapping the first physical representation to the logical model.
5. (Original) The method of claim 1, further comprising populating the second physical representation with the data of the first plurality of data fields defined according to the first physical representation using the logical model.
6. (Original) The method of claim 1, wherein at least one of the first and second physical representation is one of a database schema, a spreadsheet schema, a text file schema, an audio file schema, an image file schema, an invocation of a particular web service or a combination thereof.
7. (Original) The method of claim 1, wherein the second physical representation is a database schema.
8. (Original) The method of claim 7, wherein the database schema is one of a relational, a hierarchical and an XML database schema.
9. (Original) A method of mapping data fields between different representations of data, comprising:
 - providing a first physical representation of the data;
 - providing a second physical representation of the data;
 - providing a logical model defining a logical representation of the data described by the second physical representation, the logical model including a plurality of logical field specifications, each abstractly describing at least one of a plurality of data fields defined according to the second physical representation;
 - providing a first plurality of mapping rules for mapping one of a plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model; and

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mapping at least one data field of the plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model according to the mapping rules of the first plurality of mapping rules, wherein each logical field specification of the logical model is specific to one of a plurality of logical fields and comprises a mapping rule of a second plurality of mapping rules that maps the logical field to at least one data field of the plurality of data fields defined according to the second physical representation.

10. (Original) The method of claim 9, further comprising:

providing an extraction function for extracting physical data entities from the plurality of data fields defined according to the first physical representation;

extracting the physical data entities from the plurality of data fields defined according to the first physical representation using the extraction function; and

storing the extracted physical data entities to the plurality of data fields defined according to the second physical representation using the logical representation.

11. (Original) The method of claim 10, further comprising:

providing location indicators for indicating locations of the physical data entities in the first physical representation; and

extracting the physical data entities from the locations indicated by the location indicators.

12. (Original) The method of claim 9, further comprising:

providing a transformation function for transforming a first data format according to the first physical representation into a second data format according to the logical model; and

transforming the physical data entities having the first data format into physical data entities having the second data format using the transformation function.

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13. (Original) The method of claim 9, further comprising:

providing metadata for converting a representation of the data from the first physical representation into the second physical representation using the logical representation; and

converting, using the metadata, the representation of the data from the first physical representation into the second physical representation on the basis of the logical representation.

14. (Original) The method of claim 9, wherein at least one of the first and second physical representation is one of a database schema, a spreadsheet schema, a text file schema, an audio file schema, an image file schema, an invocation of a particular web service or a combination thereof.

15. (Original) The method of claim 9, wherein the second physical representation is a database schema.

16. (Original) The method of claim 15, wherein the database schema is one of a relational, a hierarchical and an XML database schema.

17. (Currently Amended) A computer readable medium containing a program which, when executed, performs a process of architecting a relationship between a first physical representation of data and a second physical representation of the data, the process comprising:

mapping the first physical representation to a logical model abstractly describing the second physical representation, wherein the logical model comprises a plurality of logical field definitions each comprising a logical field name, at least one location attribute identifying a location of a particular data item of the data corresponding to the logical field name, and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types

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defines a different manner of exposing the particular data item corresponding to the logical field name of the respective logical field definition.

18. (Original) The computer readable medium of claim 17, wherein the first physical representation defines a first plurality of data fields having the data and the logical model comprises a plurality of logical field specifications, each abstractly describing at least one of a second plurality of data fields defined according to the second physical representation.

19. (Original) The computer readable medium of claim 18, wherein mapping the first physical representation to the logical model comprises:

mapping at least one data field of the first plurality of data fields to a corresponding logical field specification of the plurality of logical field specifications.

20. (Original) The computer readable medium of claim 17, wherein the logical model is generated prior to mapping the first physical representation to the logical model.

21. (Original) The computer readable medium of claim 17, wherein the process further comprises:

populating the second physical representation with the data of the first plurality of data fields defined according to the first physical representation using the logical model.

22. (Original) The computer readable medium of claim 17, wherein at least one of the first and second physical representation is one of a database schema, a spreadsheet schema, a text file schema, an audio file schema, an image file schema, an invocation of a particular web service or a combination thereof.

23. (Original) The computer readable medium of claim 17, wherein the second physical representation is a database schema.

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24. (Original) The computer readable medium of claim 23, wherein the database schema is one of a relational, a hierarchical and an XML database schema.

25. (Original) A computer readable medium containing a program which, when executed, performs a process of mapping data fields between different representations of data,

the process comprising:

receiving a first physical representation of the data;

retrieving a second physical representation of the data;

retrieving a logical model defining a logical representation of the data described by the second physical representation, the logical model including a plurality of logical field specifications, each abstractly describing at least one of a plurality of data fields defined according to the second physical representation;

retrieving a first plurality of mapping rules for mapping one of a plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model; and

mapping at least one data field of the plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model according to the mapping rules of the first plurality of mapping rules, wherein each logical field specification of the logical model is specific to one of a plurality of logical fields and comprises a mapping rule of a second plurality of mapping rules that maps the logical field to at least one data field of the plurality of data fields defined according to the second physical representation.

26. (Original) The computer readable medium of claim 25, wherein the process further comprises:

retrieving an extraction function for extracting physical data entities from the plurality of data fields defined according to the first physical representation;

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extracting the physical data entities from the plurality of data fields defined according to the first physical representation using the extraction function; and

storing the extracted physical data entities to the plurality of data fields defined according to the second physical representation using the logical representation.

27. (Original) The computer readable medium of claim 26, wherein the process further comprises:

retrieving location indicators for indicating locations of the physical data entities in the first physical representation; and

extracting the physical data entities from the locations indicated by the location indicators.

28. (Original) The computer readable medium of claim 25, wherein the process further comprises:

retrieving a transformation function for transforming a first data format according to the first physical representation into a second data format according to the logical model; and

transforming the physical data entities having the first data format into physical data entities having the second data format using the transformation function.

29. (Original) The computer readable medium of claim 25, wherein the process further comprises:

retrieving metadata for converting a representation of the data from the first physical representation into the second physical representation using the logical representation; and

converting, using the metadata, the representation of the data from the first physical representation into the second physical representation on the basis of the logical representation.

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30. (Original) The computer readable medium of claim 25, wherein at least one of the first and second physical representation is one of a database schema, a spreadsheet schema, a text file schema, an audio file schema, an image file schema, an invocation of a particular web service or a combination thereof.

31. (Original) The computer readable medium of claim 25, wherein the second physical representation is a database schema.

32. (Original) The computer readable medium of claim 31, wherein the database schema is one of a relational, a hierarchical and an XML database schema.

33. (Currently Amended) A computer, comprising:
a database for storing data; and
a mapping component for architecting a relationship between a first physical representation of the data and a second physical representation of the data, the mapping component being configured for mapping the first physical representation to a logical model abstractly describing the second physical representation, wherein the logical model comprises a plurality of logical field definitions each comprising a logical field name, at least one location attribute identifying a location of a particular data item of the data corresponding to the logical field name, and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the particular data item corresponding to the logical field name of the respective logical field definition.

34. (Original) A computer, comprising:
a database for storing data; and
a mapping component for mapping data fields between different representations of the data, the mapping component being configured for:
receiving a first physical representation of the data;
retrieving a second physical representation of the data;

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retrieving a logical model defining a logical representation of the data described by the second physical representation, the logical model including a plurality of logical field specifications, each abstractly describing at least one of a plurality of data fields defined according to the second physical representation;

retrieving a first plurality of mapping rules for mapping one of a plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model; and

mapping at least one data field of the plurality of data fields defined according to the first physical representation to a corresponding logical field specification of the plurality of logical field specifications of the logical model according to the mapping rules of the first plurality of mapping rules, wherein each logical field specification of the logical model is specific to one of a plurality of logical fields and comprises a mapping rule of a second plurality of mapping rules that maps the logical field to at least one data field of the plurality of data fields defined according to the second physical representation.

35. (Currently Amended) A computer readable medium ~~data structure residing in memory~~, comprising:

mapping rules for mapping data fields defined according to a first physical representation of data to corresponding logical field specifications of a logical model, each logical field specification abstractly describing at least one of a plurality of data fields defined according to a second physical representation of the data, wherein the logical model comprises a plurality of logical field definitions each comprising a logical field name, at least one location attribute identifying a location of a particular data item of the data corresponding to the logical field name, and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the particular data item corresponding to the logical field name of the respective logical field definition;

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an extraction function for extracting physical data entities from the data fields defined according to the first physical representation; and
metadata for converting a representation of the data from the first physical representation into the second physical representation using the logical representation.

36. (Canceled) The data structure of claim 35, further comprising:
an extraction function for extracting physical data entities from the data fields defined according to the first physical representation.

37. (Currently Amended) The computer readable medium data structure of claim 35, further comprising:
location indicators for indicating locations of physical data entities in the first physical representation.

38. (Currently Amended) The computer readable medium data structure of claim 35, further comprising:
a transformation function for transforming a first data format according to the first physical representation into a second data format according to the logical model.

39. (Canceled) The data structure of claim 35, further comprising:
metadata for converting a representation of the data from the first physical representation into the second physical representation using the logical representation.